

REMARKS

Claims 2, 3, and 6-15 are pending in the subject application. Claims 10, and 12-15 are the independent claims.

Claims 2, 6-8 and 10-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Reznikov et al., U.S. Patent No. 6,378,965B1 ("Reznikov") in view of Montoya et al., U.S. Patent No. 6,421,236B1 ("Montoya"). Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Reznikov in view of Montoya and Gonzales U.S. Patent No. 4,334,261 ("Gonzales"). Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Reznikov in view of Montoya and Kim et al., U.S. Patent No. 6,288,902B1 ("Kim").

The present invention relates to enclosures for electronic equipment and more specifically to a circuit board module that provides grounding tabs attached to a front panel that also serves as a rotatable extraction lever.

Typically, a mounting tray may contain an array of circuit board module or "sleds" for electronic components such as Hard Disk Drives (HDDs). A circuit sled module has a chassis to which the HDD is mounted, the HDD, a circuit board, and a front panel. The ends of such a circuit sled module generally contain electrical signal connectors which mate with corresponding connectors mounted at the end of the tray. Because individual modules can be added and removed from the tray, the modules need surfaces to provide proper grounding, particularly where the front panel of the modules also serve as a rotatable extraction lever and may not have any direct electrical contact with the chassis tray.

Applicant solves this problem by using a circuit sled module that has a front panel which also serves as an extraction lever. The front panel is thus rotatably mountable to the module. The front panels also contain grounding tabs. As explained in the specification, the grounding tabs, preferably located on both sidewalls of the front panel extraction lever, are used for electrically grounding a given front panel to the adjacent front panels of other circuit sled modules when inserted into the tray. As a panel either engages or disengages a circuit sled module, the attached grounding tabs thus also automatically engage or disengage contact with another grounding contact. Thus, despite the fact that the front panels must serve as moveable extraction levers once inserted into the tray, the panels also provide an electrically continuous surface, and therefore an electromagnetically enclosed structure.

Applicant agrees with the Examiner that Reznikov discloses a panel that is usable as an extraction lever for a circuit module. Applicant also agrees that Montoya discloses a disk drive module having at least one grounding tab. However, neither of these prior art patents discloses or suggests grounding tabs attached to a moveable front panel, particularly where that front panel also serves as an extraction lever.

Fig. 1 of Montoya shows grounding tabs 190, 191 fixed directly on the module, as opposed to a movable lever. (“grounding clips. . . formed in lower member 106.” Col. 3, lines 37-41). However, Applicant’s invention specifically provides convenient grounding for pivotable panels. Further, the movable lever 110 of Montoya does not provide for a flat front panel, as it has both a squeezing paw 112 and a shoulder 117 that protrude from the front face of the drive carrier. Despite the fact that the front panels serve as extraction levers and therefore are moveable, when they are assembled in the tray 26 into a position as shown in Figs. 3 and 4 of the present application, the Applicants provide a flat, electrically continuous front panel surface. In contrast to this, Montoya fails to provide for grounding clips attached to a moveable front panel that provides a flat electrically continuous front panel surface, particularly where that front panel also serves as an extraction lever. Independent claims 10 and 12-15 have been amended to clarify this distinction. These amendments find support in the Specification on page 6, lines 13-16 and Fig. 4.

Applicant was faced with the problem of how to provide a grounded surface for the front panels which are not only themselves movable, but which also do not necessarily contact a portion of the chassis. Neither Reznikov, Montoya, or any of the other references of record provide a solution to a problem recognized only by the Applicant. The problem confronted by the inventor must be considered in determining whether it would have been obvious to combine prior art references to solve that problem. See Northern Telecom v. Datapoint Corp., 908 F.2d 831, 15 U.S.P.Q. 2d 132 (Fed. Cir. 1990). We remind the Examiner that is insufficient to simply find various bits and pieces of a structure from different prior art references and make a bold statement that it would be obvious to combine them. The references themselves must teach the combination.

Amendments have been made to all the claims, either directly or through dependency, in a good faith effort to clarify the invention and place the application in condition for allowance.

Applicant respectfully submits that all the claims are therefore allowable over the prior art of record.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By 

F. James Coe

Registration No. 46,630

Telephone: (978) 341-0036

Facsimile: (978) 341-0136

Concord, MA 01742-9133

Dated: 3/24/04